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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Gunther KÖLLE)
) Group Art Unit: 1731
Appln. No. : 09/577,570)
) Examiner: M. Halpern
Filed : May 25, 2000)
)
For : ROTOR FOR A PAPER STOCK PROCESSING MACHINE, ANTIWEAR
ELEMENT FOR SUCH A ROTOR, AND PAPER STOCK PROCESSING
APPARATUS

RESPONSE UNDER 37 C.F.R. 1.111

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

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Responsive to the Office Action of September 28, 2001, the period for response extending until December 28, 2001, reconsideration of this action and allowance of all the claims of the present application are respectfully requested and are now believed appropriate in view of the following remarks.

REMARKS

Summary of the Amendment

Upon consideration of the instant response, Applicant notes that claims 1 - 28 currently remain pending.

Summary of the Official Action

In the instant Office Action, the Examiner has rejected claims 1 - 28 over the art of

record. By the present remarks, Applicant submits that the rejections have been overcome, and respectfully requests reconsideration of the outstanding Office Action and allowance of the present application.

Traversal of Rejection Under 35 U.S.C. § 103(a)

Applicant traverses the rejection of claims 1 - 28 under 35 U.S.C. § 103(a) as being unpatentable over PARASKEVAS (U.S. Patent No. 4,480,760) in view of ZUGELDER (U.S. Patent No. 3,608,976). The Examiner asserts that PARASKEVAS discloses a pulping apparatus for defibering papermaking stock having a rotor equipped with blades having a leading front surface, that ZUGELDER shows a wear resistant rib extending across the width of blades in a rotor assembly, and that it would have been obvious to modify PARASKEVAS to include a wear resistant rib, as disclosed by ZUGELDER. Applicants traverse the Examiner's assertion.

Applicant's independent claim 1 recites, *inter alia*, at least one rotor blade having a leading front surface to be protected, and an anti-wear element comprising a base body and at least one wear-resistant surface, such that said anti-wear element is coupled to said leading front surface. Applicant's independent claim 15 recites, *inter alia*, a base body with a back side and at least one wear-resistant working surface, such that said back side is formed to correspond to a shape of, and to be coupled to, the leading front edge. Further, Applicant's independent claim 23 recites, *inter alia*, a rotor rotatably coupled adjacent said screen, in which said rotor comprises at least one rotor blade having a leading front surface, relative

to a rotational direction of said rotor, and an anti-wear element coupled to said leading front edge, and in which said anti-wear element comprises a base body and a wear-resistant working surface. Applicant submits that no proper combination of the applied documents teaches or suggests at least the above-noted features.

Applicant notes that, while PARASKEVAS is directed to a rotor for a pulping apparatus, this rotor suffers from the same drawbacks as noted in the instant application, i.e., considerable wear. In contrast, Applicant notes that ZUGELDER is directed to a fan blade structured to contact and blow *solid* particles, such as pulverized coal. Thus, Applicant submits that ZUGELDER fails to provide any teaching or suggestion for modifying the rotor of PARASKEVAS, which is intended for use in a pulper. Moreover, as ZUGELDER does not provide any teaching or suggestion of problems which may arise in the pulping apparatus, Applicant submits that it would not have been obvious to one ordinarily skilled in the art to refer to art related to pulverized coal fan in order to address drawbacks in a pulping rotor.

Moreover, Applicant submits that, as the leading edges of the rotor blades of PARASKEVAS are shown adjacent screen 16, it is not apparent how one ordinarily skilled in the art would incorporate the ribs of ZUGELDER into the PARASKEVAS apparatus. That is, Applicant submits that the art of record fails to provide any reasons for combining the documents in the manner asserted by the Examiner.

Further, even assuming, *arguendo*, that one were to combine PARASKEVAS and

ZUGELDER in the manner asserted by the Examiner (which Applicant submits would not have been obvious), Applicant submits that the combination would not render the instant application unpatentable. In particular, Applicant notes that the ribs of ZUGELDER are intended to protect the blades from contact with solid particles, and, given this disclosure, it would appear that the only modification of PARASKEVAS (albeit not obvious) would be to position the ribs on vane 18 to move the suspension, and not on defibrating insert 23, which is not even suggested by ZUGELDER. In light of this, Applicant submits that the asserted combination fails to teach or suggest the combination of features recited in at least independent claims 1, 15, and 23.

Moreover, Applicant notes that, while it is not a concern in ZUGELDER, the rotor/screen arrangement in PARASKEVAS is designed so that the rotor movement creates certain current flows to ensure guidance of the suspension toward the screen. However, Applicants submit that it is not apparent from the applied documents whether the addition of ribs to the PARASKEVAS rotor would enable the desired creation of currents to be maintained, as the flow over the rotors will be interrupted by the ribs.

Accordingly, Applicant submits that no proper combination of the applied documents renders unpatentable the combination of features recited in at least independent claims 1, 15, and 23. Moreover, Applicant submits that the art of record fails to provide the requisite motivation or rationale for combining the documents in the manner asserted by the Examiner.

Thus, Applicant submits that the instant rejection is improper and should be withdrawn.

Further, Applicant submits that claims 2 - 14, 16 - 22, and 24 - 28 are allowable at least for the reason that these claims depend from allowable base claims and because these claims recite additional features that further define the present invention. In particular, Applicant submits that no proper combination of PARASKEVAS and ZUGELDER teaches or suggests, *inter alia*, said anti-wear element is welded to said leading front surface, as recited in claim 2; in combination with a tank of a paper stock processing machine, wherein said rotor is rotatably mounted within said tank to circulate a stock suspension in said tank, as recited in claim 3; said paper stock processing machine is a primary pulper having a horizontally oriented screen, and said rotor is rotatably mounted so that said leading front surface positioned adjacent said screen, as recited in claim 4; said paper stock processing machine is a secondary pulper having a vertically oriented screen, and said rotor is rotatably mounted so that said leading front surface positioned adjacent said screen, as recited in claim 5; said at least one wear-resistant working surface comprises a layer of wear-resistant material that is firmly coupled to said base, as recited in claim 6; said at least one wear-resistant material is fixed onto said base body by hard facing, as recited in claim 7; said anti-wear element is formed separately from said rotor, and said anti-wear element is welded to said at least one rotor blade, as recited in claim 8; said at least one rotor blade comprises a plurality of rotor blade having leading front surfaces, and at least one partial section of each

said leading front surface of each rotor blade, radially inwardly from a free end, is completely covered by said anti-wear element, as recited in claim 9; a portion of said anti-wear element coupled to said at least one rotor blade protrudes past said leading front surface, as recited in claim 10; said portion extends past said leading front surface in a direction adapted to face a screen in a paper stock processing machine, as recited in claim 11; a face of said anti-wear element is beveled at an angle α of between approximately 1° and 45° from parallel to a rotational axis of said rotor, as recited in claim 12; said face of said anti-wear element is beveled such that a radial distance of a surface of said face from said rotational axis increases in a direction toward said leading front surface, as recited in claim 13; said leading front surface has one of a cylindrical and conical ring segment shape, as recited in claim 14; said back side is welded to said leading front edge, as recited in claim 16; in combination with a tank of a paper stock processing machine, wherein the rotor blades are adapted to circulate a stock suspension contained in said tank, as recited in claim 17; said wear-resistant working surface comprises a wear-resistant material, as recited in claim 18; said wear-resistant material comprises a non-rusting, alloyed high-grade steel, as recited in claim 19; said base body has one of a cylindrical and conical ring segment shape, as recited in claim 20; said wear-resistant working surface is welded to said base body and said wear-resistant surface is arranged to form at least one front edge that extends over an edge of said base body opposite said back side, as recited in claim 21; a curvature radius of said front edge is a

maximum of approximately 2 mm, as recited in claim 22; said base body is welded to said leading front surface, and said wear-resistant working surface is coupled to said base body, as recited in claim 24; a portion of said anti-wear element is arranged to protrude past said leading front surface, as recited in claim 25; said portion extends past said leading front surface in a direction adapted to face said screen, as recited in claim 26; said tank is a primary pulper tank, as recited in claim 27; said tank is a secondary pulper tank, as recited in claim 28.

Applicant requests that the Examiner reconsider and withdraw the rejection of claims 1 - 28 under 35 U.S.C. § 103(a) and indicate that the claims are allowable.

Application is Allowable

Thus, Applicant respectfully submits that each and every pending claim of the present invention meets the requirements for patentability under 35 U.S.C. §§ 102 and 103, and respectfully requests the Examiner to indicate allowance of each and every pending claim of the present invention.

Authorization to Charge Deposit Account

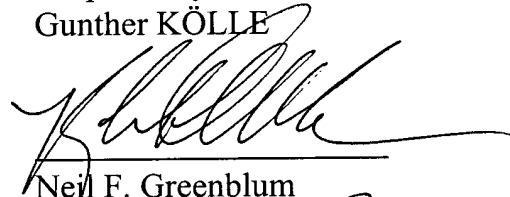
The Commissioner is authorized to charge to Deposit Account No. 19 - 0089 any necessary fees, including any extensions of time fees required to place the application in condition for allowance by Examiner's Amendment, in order to maintain pendency of this application.

CONCLUSION

In view of the foregoing, it is submitted that none of the references of record, either taken alone or in any proper combination thereof, anticipate or render obvious the Applicants' invention, as recited in each of claims 1 - 28. The applied references of record have been discussed and distinguished, while significant claimed features of the present invention have been pointed out.

Accordingly, reconsideration of the outstanding Office Action and allowance of the present application and all the claims therein are respectfully requested and now believed to be appropriate.

Respectfully submitted,
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1731

In re application of KOLLE

Attorney Docket No. P19311
Box Non-Fee

Serial No. : 09/577,570

Group Art Unit: 1731

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Examiner: M. Halpern

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FOR SUCH A ROTOR, AND PAPER STOCK PROCESSING APPARATUS
THE COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

Sir:

Transmitted herewith is an Amendment under 37 C.F.R. 1.111 in the above-captioned application.

- ☐ Small Entity Status of this application under 37 C.F.R. 1.9 and 1.27 has been established by a verified statement previously filed.
☐ A verified statement to establish small entity status under 37 C.F.R. 1.9 and 1.27 is enclosed.
☐ A Request for Extension of Time.
☒ No Additional Fee.

The fee has been calculated as shown below:

Claims After Amendment	No. Claims Previously Paid For	Present Extra	Small Entity		Other Than A Small Entity	
			Rate	Fee	Rate	Fee
Total Claims: 28	*28	0	x 9=	\$	x 18=	\$0.00
Indep. Claims: 3	**3	0	x 42=	\$	x 84=	\$0.00
Multiple Dependent Claims Presented			140=	\$	+280=	\$0.00
Extension Fees for Month				\$		\$0.00
Total:				\$	Total:	\$0.00

*If less than 20, write 20

**If less than 3, write 3

☐ Please charge my Deposit Account No. 19-0089 in the amount of \$_____.

N/A A Check in the amount of \$_____ to cover the filing /extension fee is included.

☒ The Commissioner is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 19-0089.☒ Any additional filing fees required under 37 C.F.R. 1.16.☒ Any patent application processing fees under 37 C.F.R. 1.17, including any required extension of time fees in any concurrent or future reply requiring a petition for extension of time for its timely submission (37 C.F.R. 1.136)(a)(3).

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